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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/681,266	03/12/2001	Steven C. Miller	13032US01	8546

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EXAMINER

LEWIS, MICHAEL A

ART UNIT PAPER NUMBER

2655

DATE MAILED: 11/12/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

7

Office Action Summary

Application No.

09/681,266

Applicant(s)

MILLER, STEVEN C.

Examiner

Lewis A Michael

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The term "...Voice Recognition..." in the title of the invention is misleading. A new title is suggested that is clearly indicative of the invention to which the claims are directed. The term Voice recognition is now usually reserved for applications that identify a particular speaker. The following title is suggested: Remote Control of a Medical Device using Speech Recognition and Foot Controls. Also, the term voice recognition should be changed to speech recognition throughout the document.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4,6,7,8-10,12-17,19-21,23 & 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Murphy et al. (US5544654).

Regarding claims 1,20, 21,23 & 24, Murphy et al. (US5544654) disclose a control interface, system and method that uses:

a) A microphone for receiving verbal commands from an operator (22, See Fig. 9).

Art Unit: 2655

b) A system control and voice [speech] recognition processor receiving verbal command from a microphone and assigning a function to an input console in response to a verbal command. Murphy et al. describe the use of a personal computer or embedded computer that is used in conjunction with a recognition engine which compares the incoming speech to the active vocabulary of defined utterances to determine if the spoken word matches any of the defined commands (Col 7, Line16 – Line 26, Col 8, Lines13 – 17).

c) An input console controlling the function assigned to an input console when activated by an operator. Murphy et al. describe an input console, the Executive program, which interfaces between the ultrasound *[medical device]* and the speech recognition system (Col 8, Lines 30-67).

Regarding claim 13, Murphy et al. (US5544654) disclose a control interface, system and method that uses:

a) A system control and voice [speech] recognition processor receiving verbal command from a microphone and assigning a function to an input console in response to a verbal command. Murphy et al. describe the use of a personal computer or embedded computer that is used in conjunction with a recognition engine which compares the incoming speech to the active vocabulary of a defined utterances to determine if the spoken word matches any of the defined commands (Col 7, Line16 – Line 26, Col 8, Lines13 – 17).

b) An input console controlling the function assigned to an input console when activated by an operator. Murphy et al. describe an input console, the Executive program, which interfaces between the ultrasound *[medical device]* and the speech recognition system (Col 8, Lines 30-67).

Regarding claim 14, Murphy et al. disclose a microphone for receiving verbal commands from an operator (22, See Fig. 9).

Regarding claims 2 & 15, Murphy et al. disclose the ability to acquire and display medical images. Murphy et al. describe an input console control program, the Executive, which has a bi-directional communication link with the ultrasound system. The interface supports the Executive sending commands to the ultrasound machine *[medical device]* and ultrasound machine *[medical device]* reporting back changes in its state (Col 9, Line2). In addition, there is the ability to append other sources of control including an image capture module (Col 9, Line13).

Regarding claims 3 & 16, Murphy et al. disclose a system control and speech recognition processor that is programmed to recognize predetermined verbal commands. Murphy et al. describe a Voice Control Systems that provides the software tools to create a vocabulary. Together with the speech recognition engine one can then use the active vocabulary to recognize the spoken commands. (Col 8, Line 24).

Regarding claims 4 & 17 Murphy et al. disclose a system control and speech recognition processor that is programmed to recognize a predetermined function.

Murphy describes a Recognition engine that compares the incoming speech to the active vocabulary of defined utterances to determine if the spoken word matches any of the defined commands (Col 8, Line 13). In addition, the Executive program that runs on a personal computer and interfaces between the ultrasound machine and the speech recognition system *[recognition engine]* implements the active vocabulary control and dynamic macros *[recorded functions]* (Col 8, Line31).

Regarding claims 6 & 19 Murphy et al. disclose that the medical imaging device is an ultrasonic medical imaging device (Col 2, Line37).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 5, 11, 18, 22 & 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy (US5544654) in view of Faries et al. (US6371121B1).

Regarding claims 5, 18, 22 & 25, Murphy et al. disclose the use of a speech control system, algorithm and method for control of a medical device and a display to show the acquired data or images. Murphy et al. also shows the use of a foot switch to control the medical device. Murphy et al. does not show the use of a foot switch to control the system control and speech recognition processor or vice versa. However, Faries et al. teach an actuated foot switch or control unit that is in communication with the system to control system operation. The remote system may control various operating parameters and features of the system e.g. desired temperature, power, display (Col 4, Line 50 – 65).

Therefore, it would have been obvious for one of ordinary skill at the time of invention to use a foot control to modify Murphy as taught by Fairies who shows

that a user can benefit in the medical environment from the combination of a foot switch and a display to control medical equipment.

Regarding claim 7, Murphy et al. disclose:

- a) A microphone for receiving verbal commands from an operator (22, See Fig. 9).
- b) A system control and voice [speech] recognition processor receiving verbal command from a microphone and assigning a function to an input console in response to a verbal command. Murphy et al. describe the use of a personal computer or embedded computer that is used in conjunction with a recognition engine which compares the incoming speech to the active vocabulary of a defined utterances to determine if the spoken word matches any of the defined commands (Col 7, Line16 – Line 26, Col 8, Lines13 – 17).
- c) An input console controlling the function assigned to an input console when activated by an operator. Murphy et al. describe an input console, the Executive program, which interfaces between the ultrasound *[medical device]* and the speech recognition system (Col 8, Lines 30-67).

Murphy does not show the use of a display for displaying the function assigned to an input device. However, Faries et al. teach a system that includes any

quantity or type (e.g. LED, LCD, etc) of display of any shape or size. This display may be disposed at any suitable locations, and may indicate any information, such as that relating to any system or medium characteristic or parameters. The controls may be of any type of input device *[including a foot switch]* e.g. ...touch screen display and voice recognition that facilitates entry and/or display of any type of information to control system operation (Col 22, Line 51).

Therefore, it would have been obvious for one of ordinary skill at the time of invention to modify Murphy et al. to display the function ~~as~~ taught by Fairies et al. it would be beneficial to users in the medical environment to have displays that shows the control functions.

Regarding claims 8, Murphy et al. disclose the ability to acquire and display medical images. Murphy et al. describe an input console control program, the Executive, which has a bi-directional communication link with the ultrasound system. The interface supports the Executive sending commands to the ultrasound machine *[medical device]* and ultrasound machine *[medical device]* reporting back changes in its state. In addition, there is the ability to append other sources of control including an image capture module (Col 9, Line2, Col 9, Line13). Murphy does not show the ability to display functions on a system control console. However, Faries et al. teach that a system may include any

quantity or type (e.g. LED, LCD, etc) of display of any shape or size. This display may be disposed at any suitable locations, and may indicate any information, such as that relating to any system or medium characteristic or parameters. The controls may be of any type of input device *[including a foot switch]* e.g. ...touch screen display and voice recognition that facilitates entry and/or display of any type of information to control system operation (Col 22,Line51).

Therefore, it would have been obvious for one of ordinary skill at the time of invention to modify Murphy et al. to display medical images as taught by Fairies since it would be beneficial to users in the medical environment to have displays that shows the functions/images of a control system which includes speech or foot control for use with medical devices.

Regarding claim 9, Murphy et al. disclose a system control and speech recognition processor that is programmed to recognize predetermined verbal commands. Murphy et al. describe a Voice Control Systems that provides the software tools to create a vocabulary. Together with the speech recognition engine one can then use the active vocabulary to recognize the spoken commands. (Col 8, Line 24). Murphy does not show the ability to display functions on a system control console. However, Fairies et al. teach et al. that a system may include any quantity or type (e.g. LED, LCD, etc) of display of any

shape or size. This display may be disposed at any suitable locations, and may indicate any information, such as that relating to any system or medium characteristic or parameters. The controls may be of any type of input device *[including a foot switch]* e.g. touch screen display and voice recognition that facilitates entry and/or display of any type of information to control system operation (Col 22,Line 51).

Therefore, it would have been obvious for one of ordinary skill at the time of invention to modify Murphy et al. to display predetermined verbal command functions as taught by Fairies et al. since it would be beneficial to users in the medical environment to have a display that shows the verbal commands of a control system.

Regarding claim 10, Murphy et al. disclose a system control and speech recognition processor that is programmed to recognize a predetermined function. Murphy describes a Recognition engine that compares the incoming speech to the active vocabulary of defined utterances to determine if the spoken word matches any of the defined commands (Col 8, Line 13). In addition, the Executive program that runs on a personal computer and interfaces between the ultrasound machine and the speech recognition system *[recognition engine]*

implements the active vocabulary control and dynamic macros *[recorded functions]* (Col 8, Line31). Murphy does not show the ability to display functions on a system control console. However, Faries et al. teach that a system may include any quantity or type (e.g. LED, LCD, etc) of display of any shape or size. This display may be disposed at any suitable locations, and may indicate any information, such as that relating to any system or medium characteristic or parameters. The controls may be of any type of input device *[including a foot switch]* e.g. touch screen display and voice recognition that facilitates entry and/or display of any type of information to control system operation (Col 22,Line 51).

Therefore, it would have been obvious for one of ordinary skill at the time of invention to modify Murphy et al. to display predetermined functions as taught by Faries et al. since there is tremendous benefit to users in the medical environment to have a display that shows the functions of a control.

Regarding claim 11, Murphy et al. disclose the use of a speech control system for control of a medical device and a display to show the acquired data or images. Murphy also shows the use of a foot switch to control the medical device. Murphy does not show the use of a foot switch to control the system control and speech recognition processor or vice versa. However, Faries et al.

teach an actuated foot switch or control unit that is in communication with the system to control system operation. The remote system may control various operating parameters and features of the system e.g. desired temperature, power, display (Col 4, Line 50 – 65).

Therefore, it would have been obvious for one of ordinary skill at the time of invention to use a foot control to modify Murphy as taught by Fairies since it will be beneficial to a user in the medical environment to use a foot switch and a display to control medical equipment.

Regarding claim 12, Murphy et al. disclose that the medical imaging device is an ultrasonic medical imaging device (Col 2, Line 37). Murphy does not show the ability to display functions on a system control console. . However, Fairies et al. teach et al. that a system may include any quantity or type (e.g. LED, LCD, etc) of display of any shape or size. This display may be disposed at any suitable locations, and may indicate any information, such as that relating to any system or medium characteristic or parameters. The controls may be of any type of input device *[including a foot switch]* e.g. touch screen display and voice recognition that facilitates entry and/or display of any type of information to control system operation (Col 22, Line 51).

Therefore, it would have been obvious for one of ordinary skill at the time of invention to modify Murphy with an ultrasonic medical imaging device as taught by Fairies et al. since there would be a tremendous benefit to users in the medical environment to have a display that shows the functions of a medical device.

Conclusion

12. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872 9314,

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal

Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Lewis, telephone number (703)305-8730.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9314.

Application/Control Number: 09/681,266


Page 14

Art Unit: 2655

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

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10/9/2003


11/4/03
DORIS H. TO
SUPERVISORY PATENT EXAMINER
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